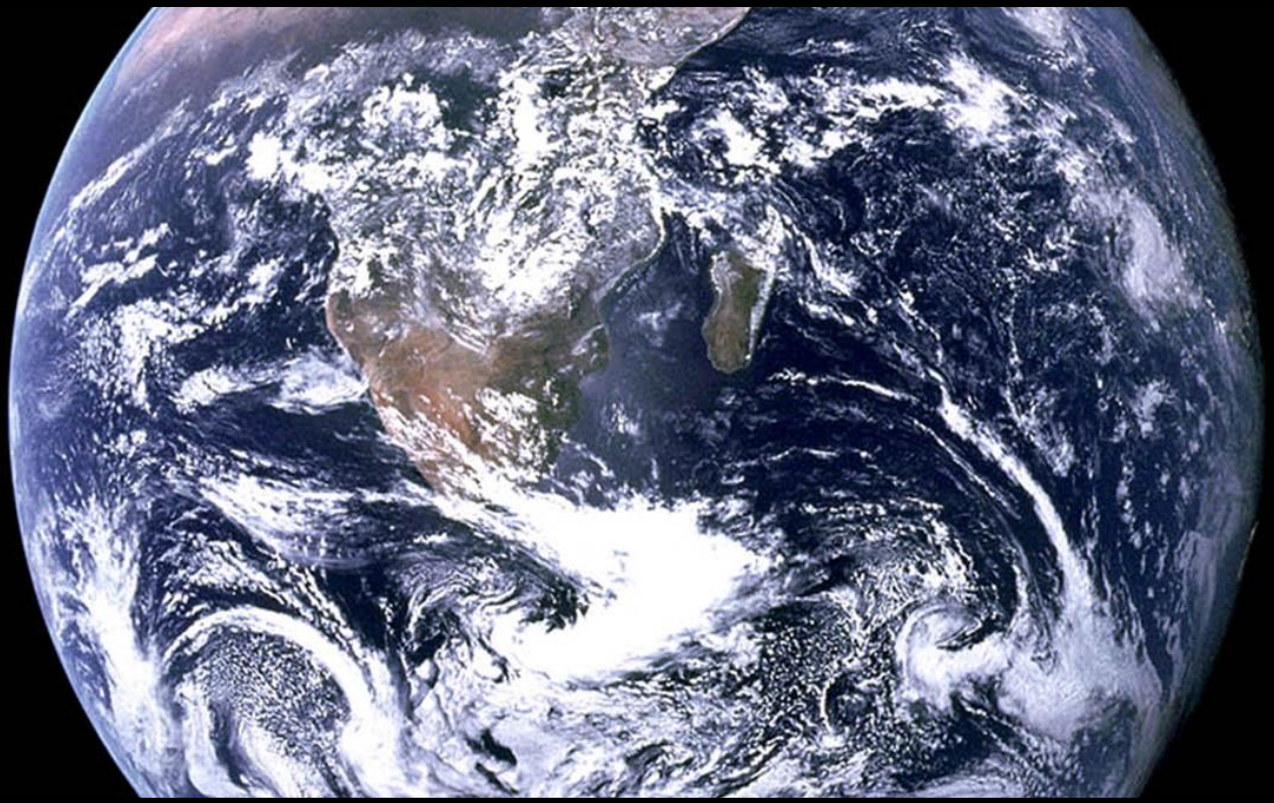
Way out of our ecological predicament?

Reconnecting with our sacred Oneness and respecting its diverse manifestations



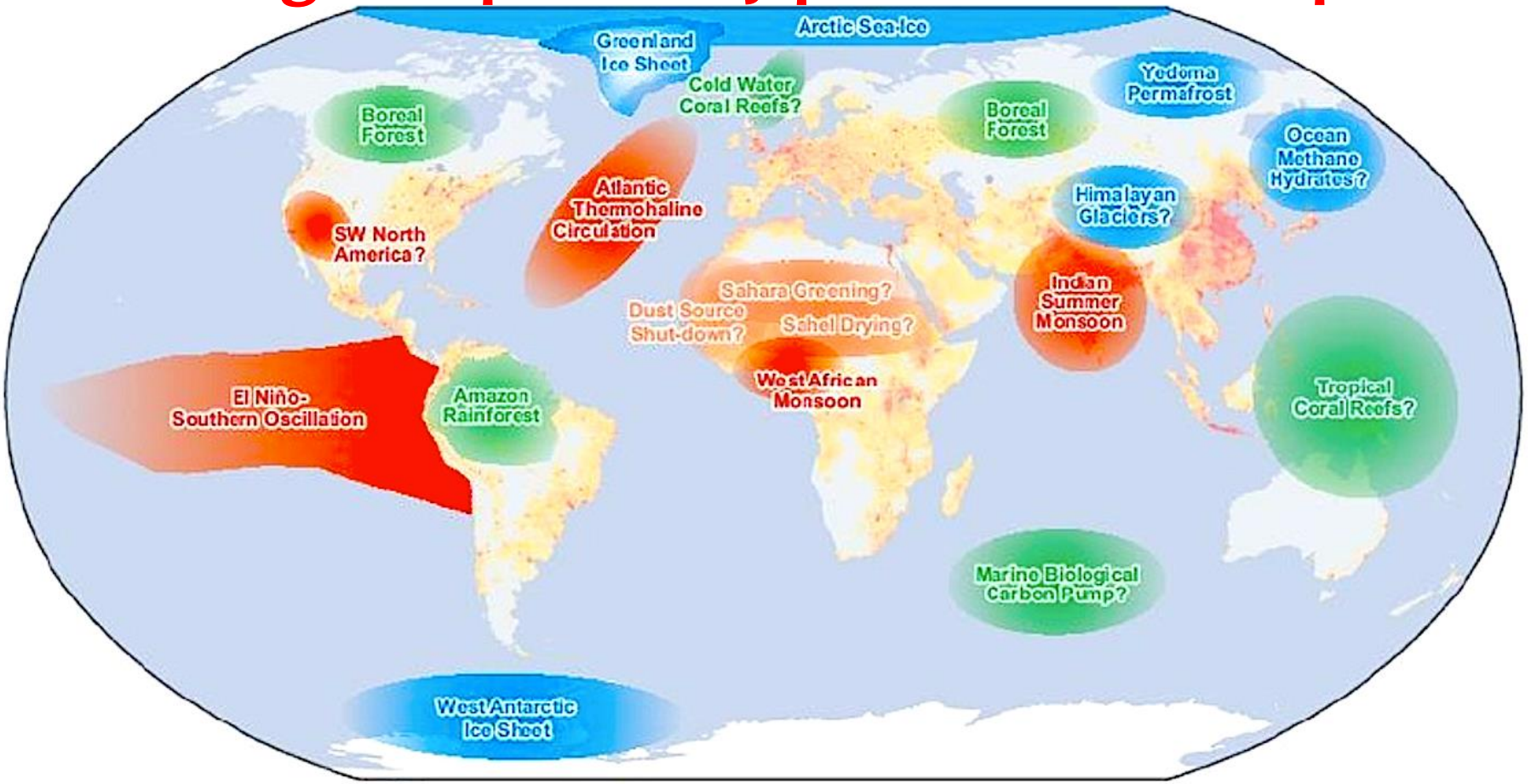
Kritee (Kanko), Ph.D.

Scientist, Dancer, Zen Teacher and Activist

Twitter @KriteeKanko ***Facebook*** Kritee Kanko

Our ecological predicament?

Endangered planetary processes & biosphere



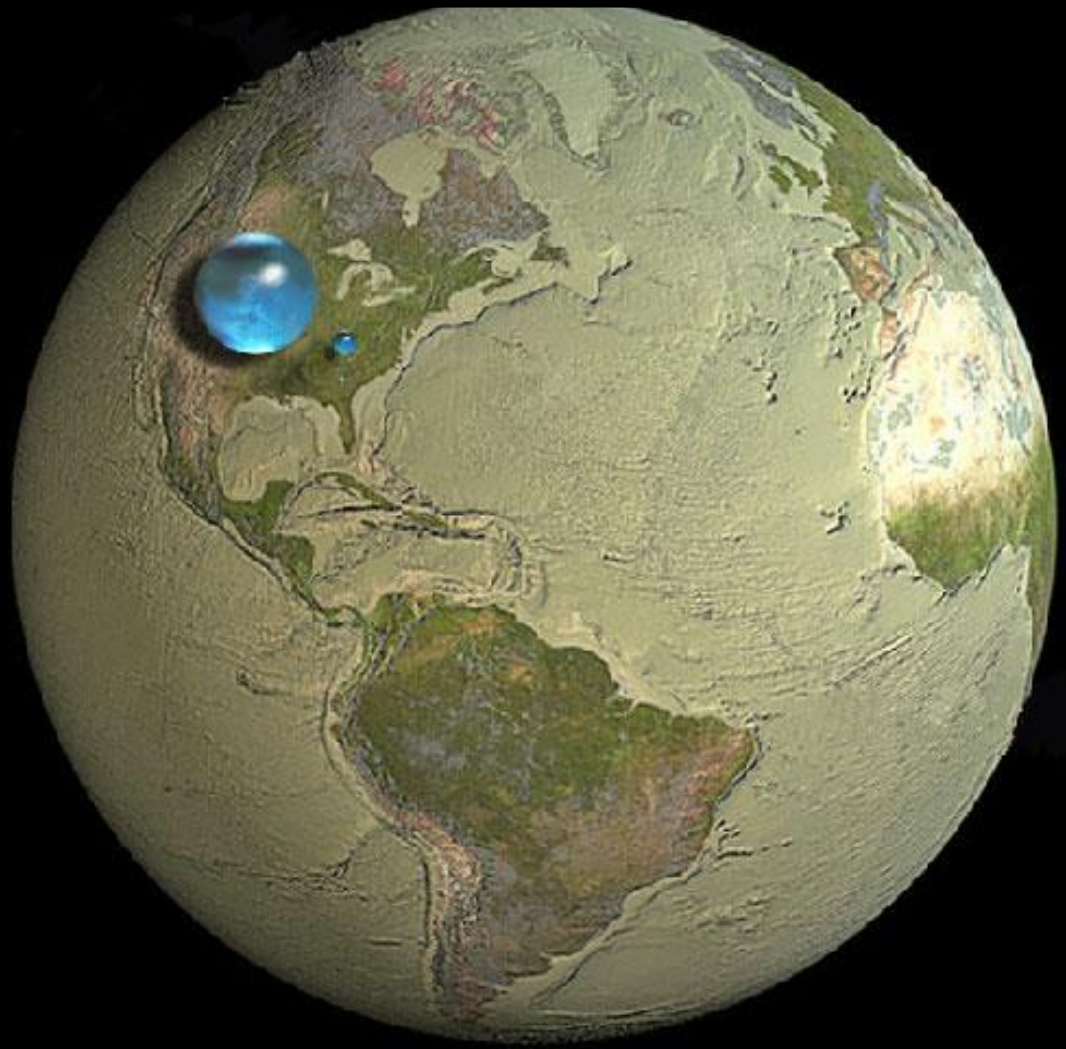
What ultimately makes all life possible?

Thin inter-connected layers

Freshwater
50-100 miles sphere

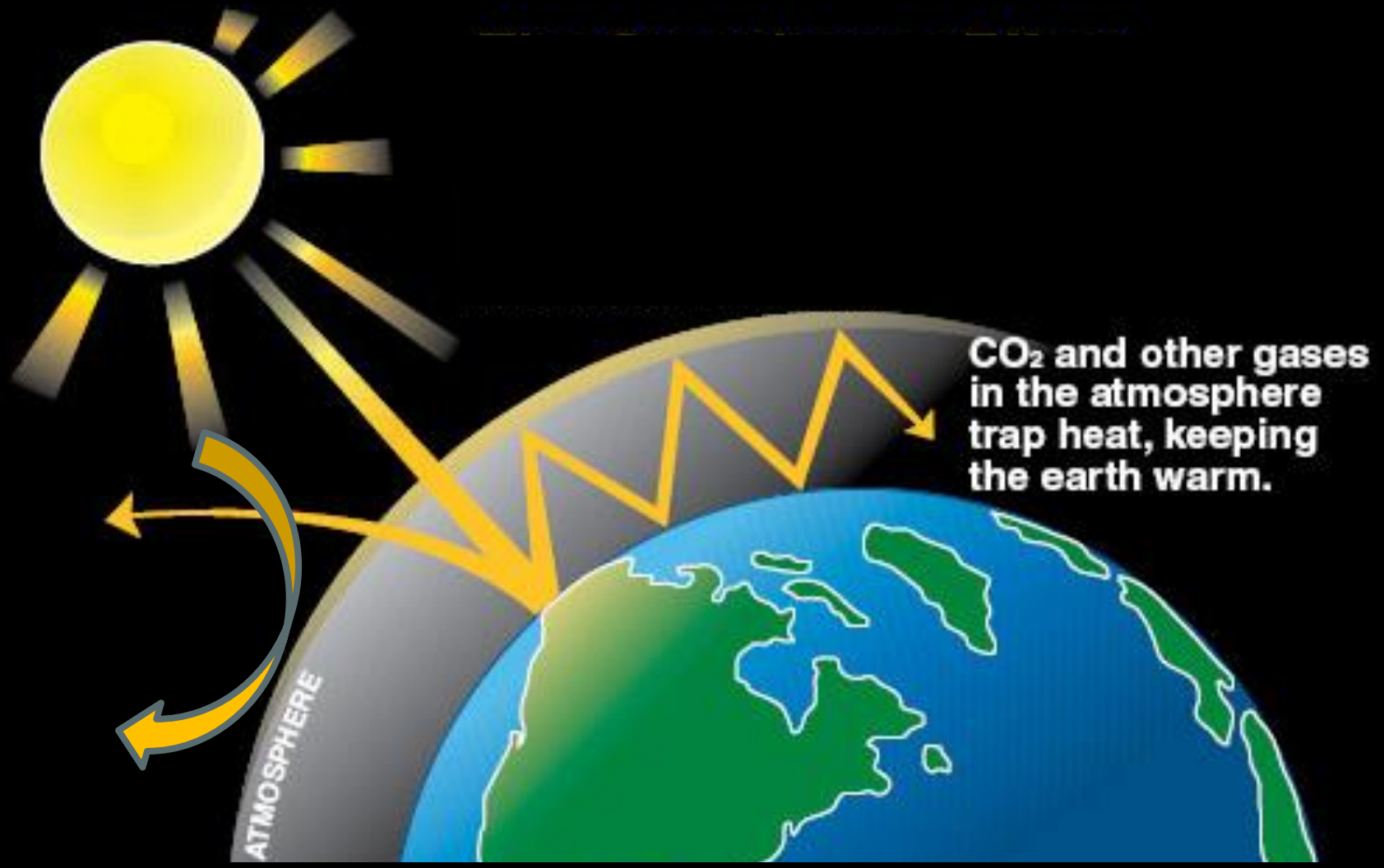
Topsoil:
2-8 inches

Atmosphere:
20 miles



Basic Law of physics

Greenhouse effect and climate forcings



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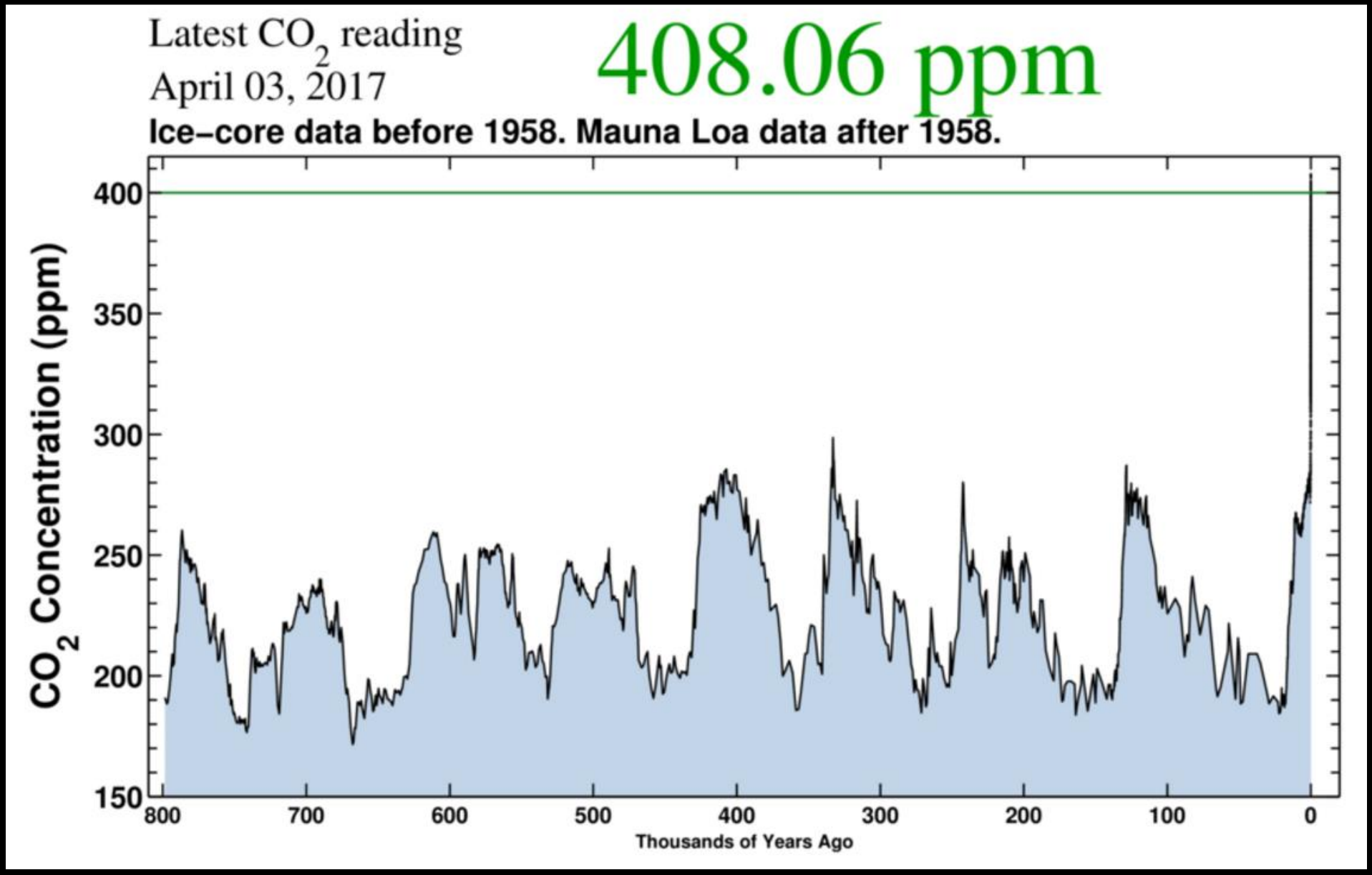
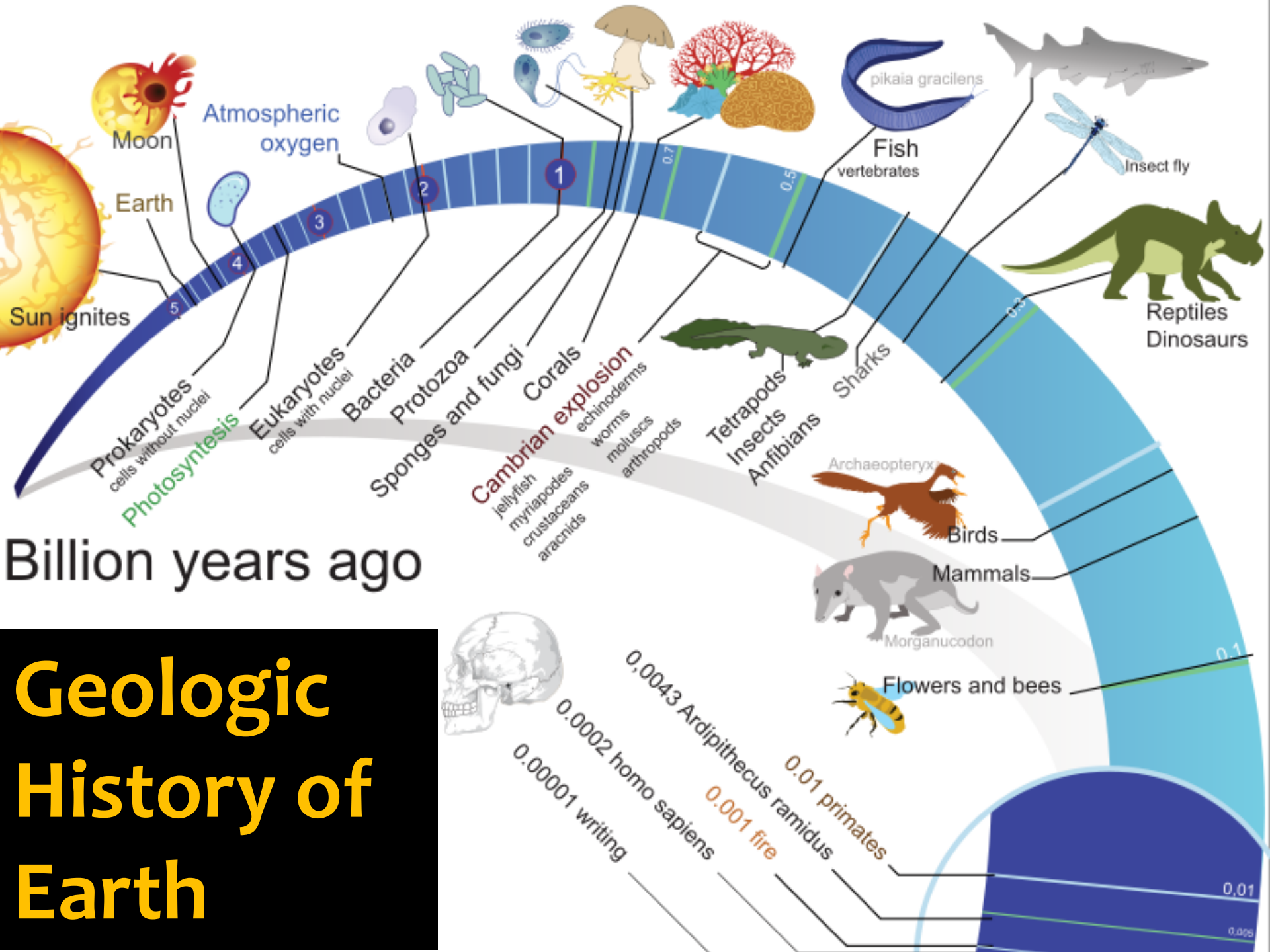
Kneeling curve: Our planet's EKG

180-280 ppm circle and the 400 ppm tangent





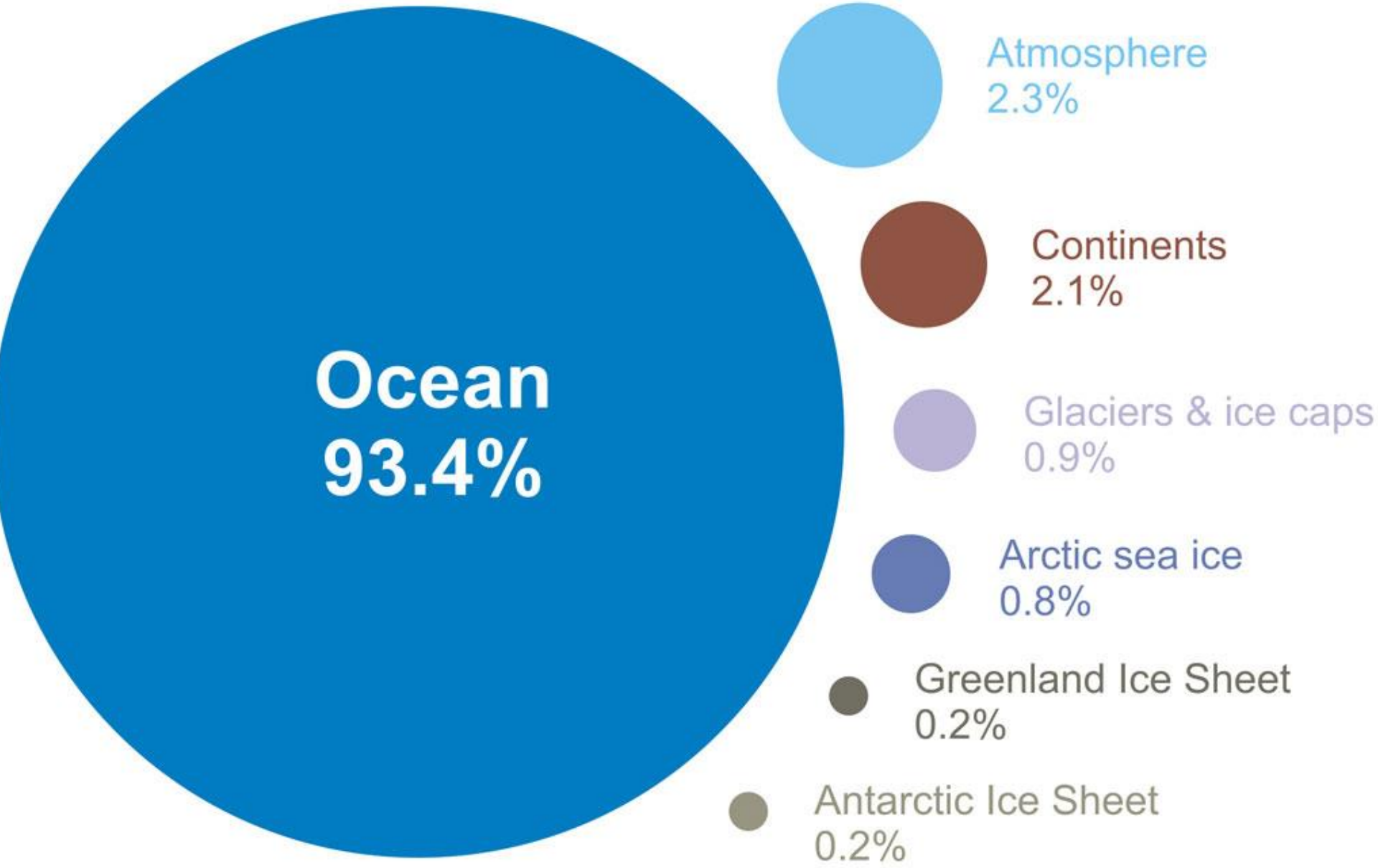
Geologic History of Earth

Our planet's EKG

180-280 ppm circle and the 400 ppm tangent

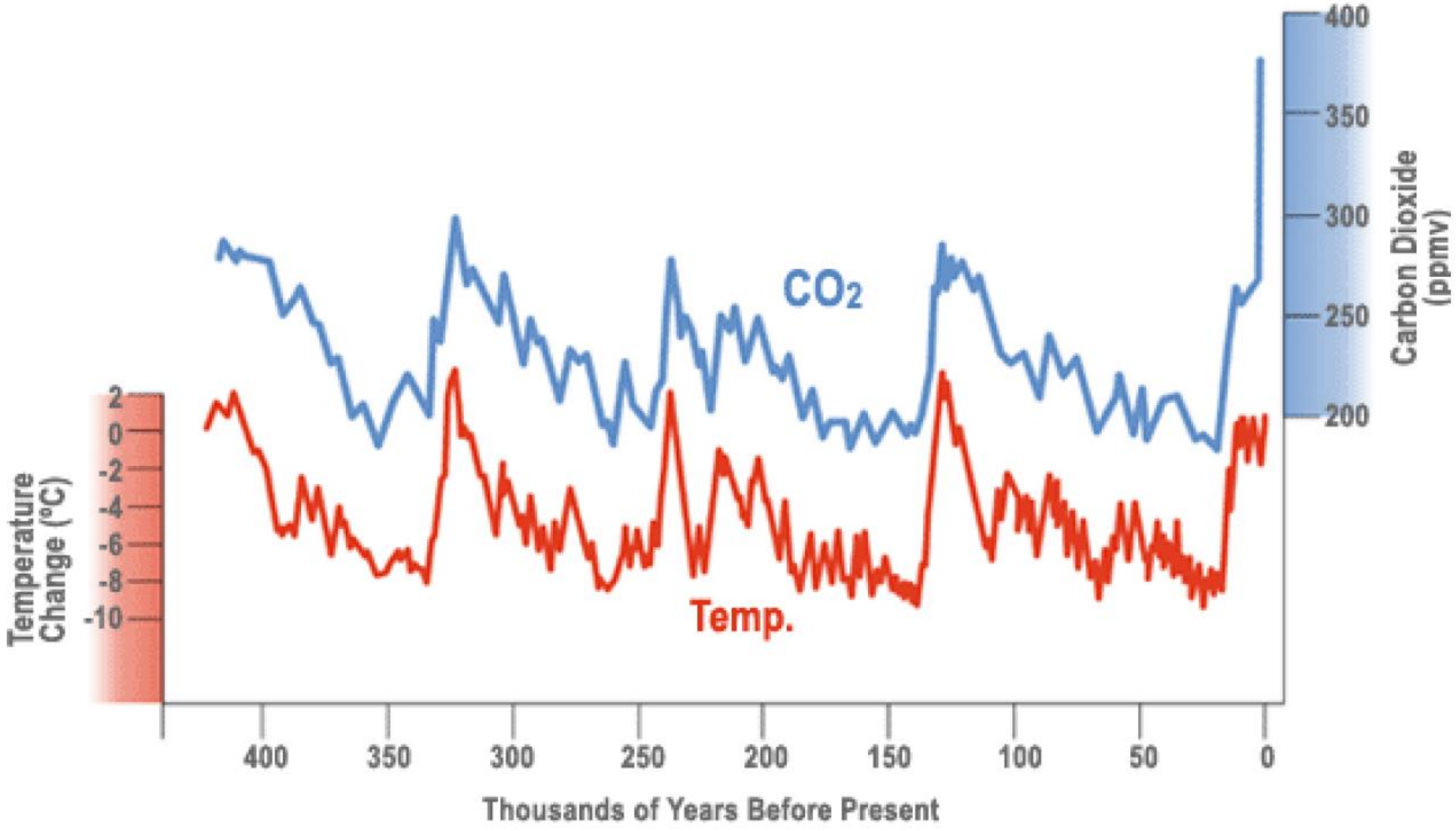
2 mile thick ice above Chicago!

Where is global warming going?



What will >450 ppm mean?

Quite bad (+ we don't know).

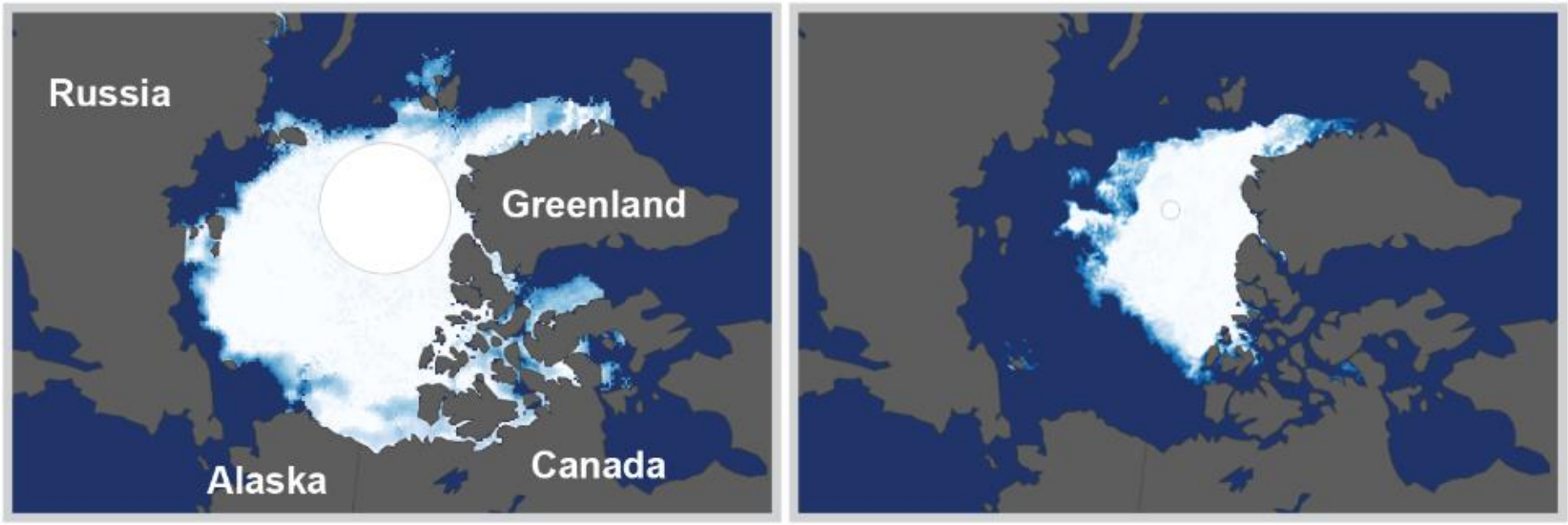


(Figure 1. Close correlation between CO_2 levels on the planet and global average temperatures)

So far....

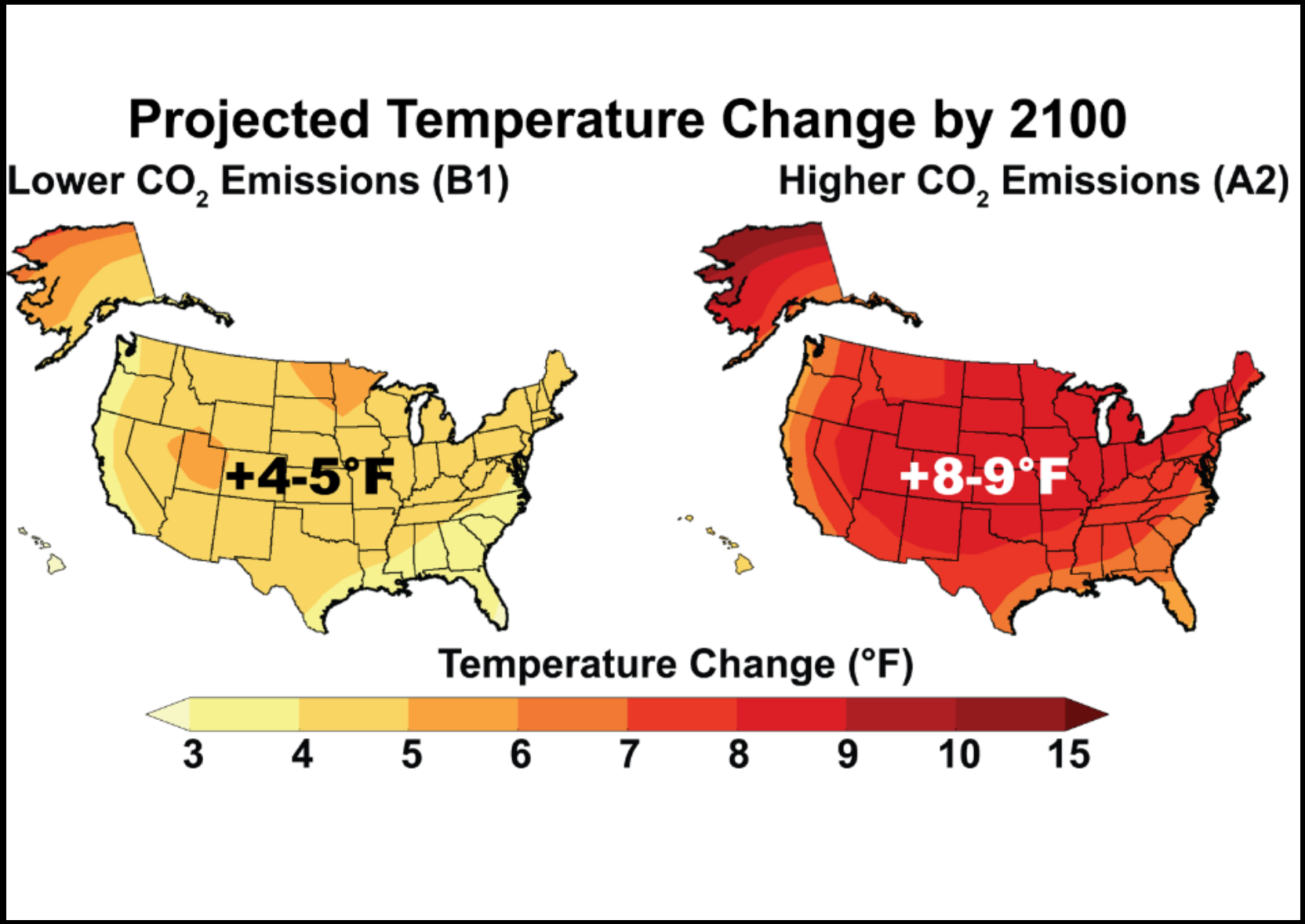
sea ice/glaciers shrinkage, extreme precipitation, sea rise, ocean heat > prediction

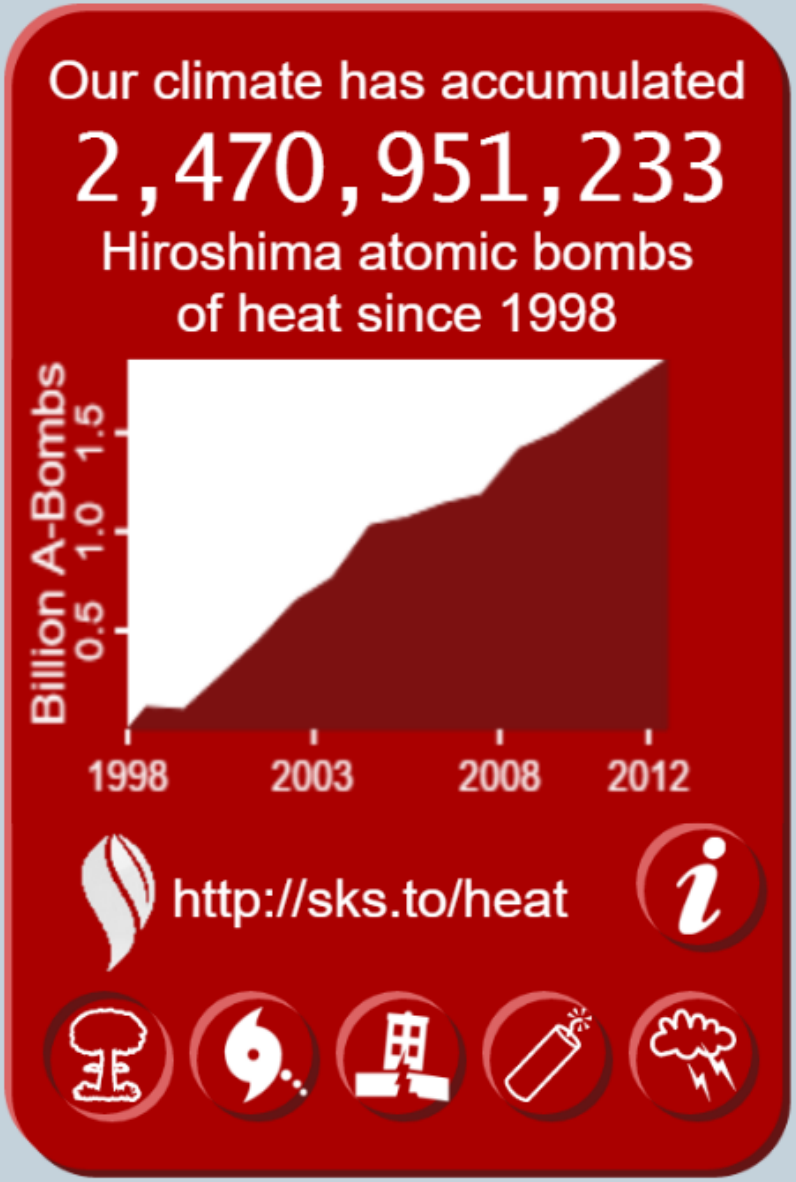
Arctic Sea Ice



Sept. 1984 Sept. 2012

Future: Direct extremes

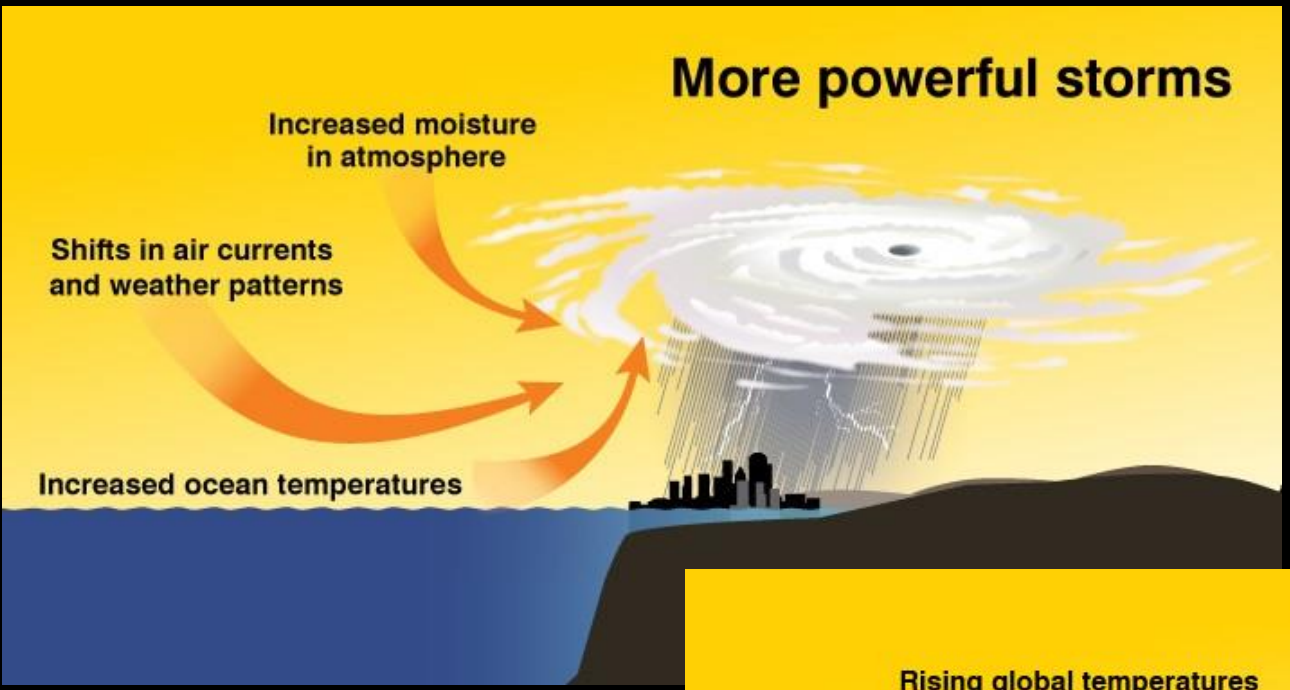


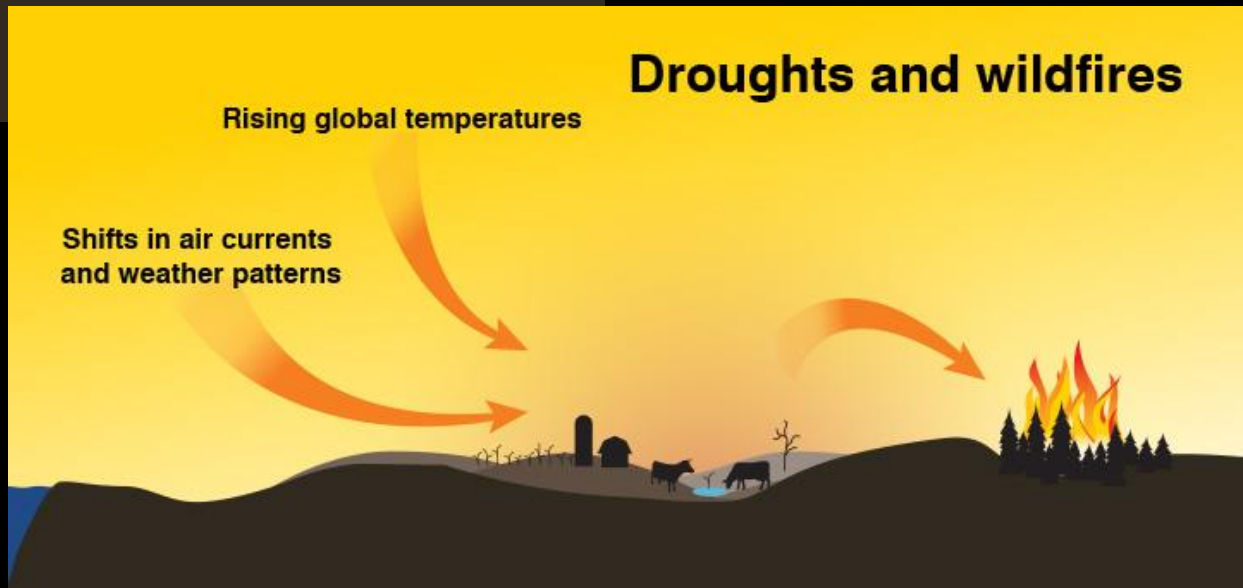


8:14 PM
4/5/2017

Indirect result

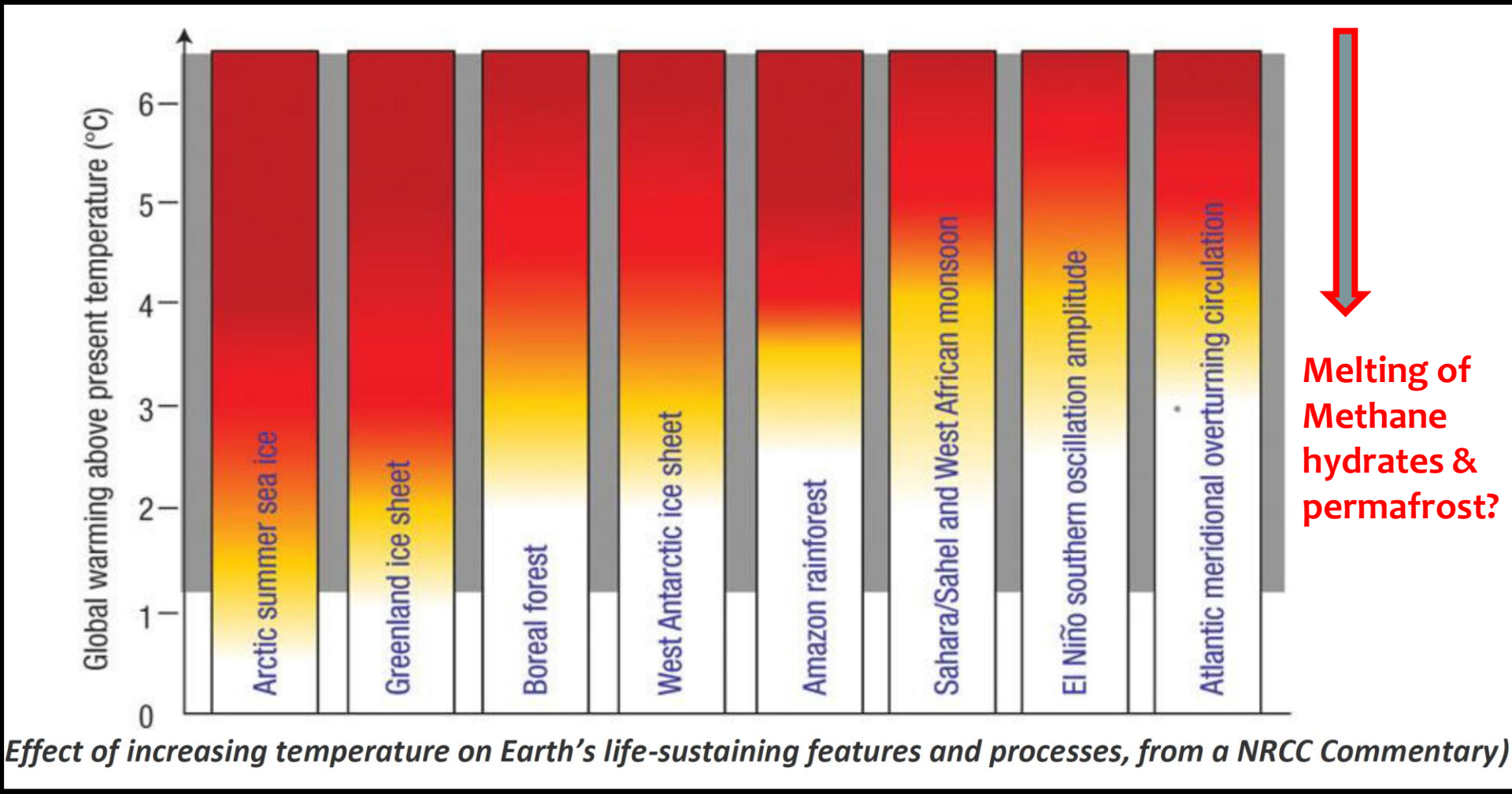
Weather on steroids





Future sea-level:
With crossing of tipping points

Is it too late?
What are our tipping points?



Effect of increasing temperature on Earth's life-sustaining features and processes, from a NRCC Commentary)

80% chance of protecting planet requires < 540 gigatons of CO2e when fosiil fuel companies have more than 2700 gigatons (five times more)

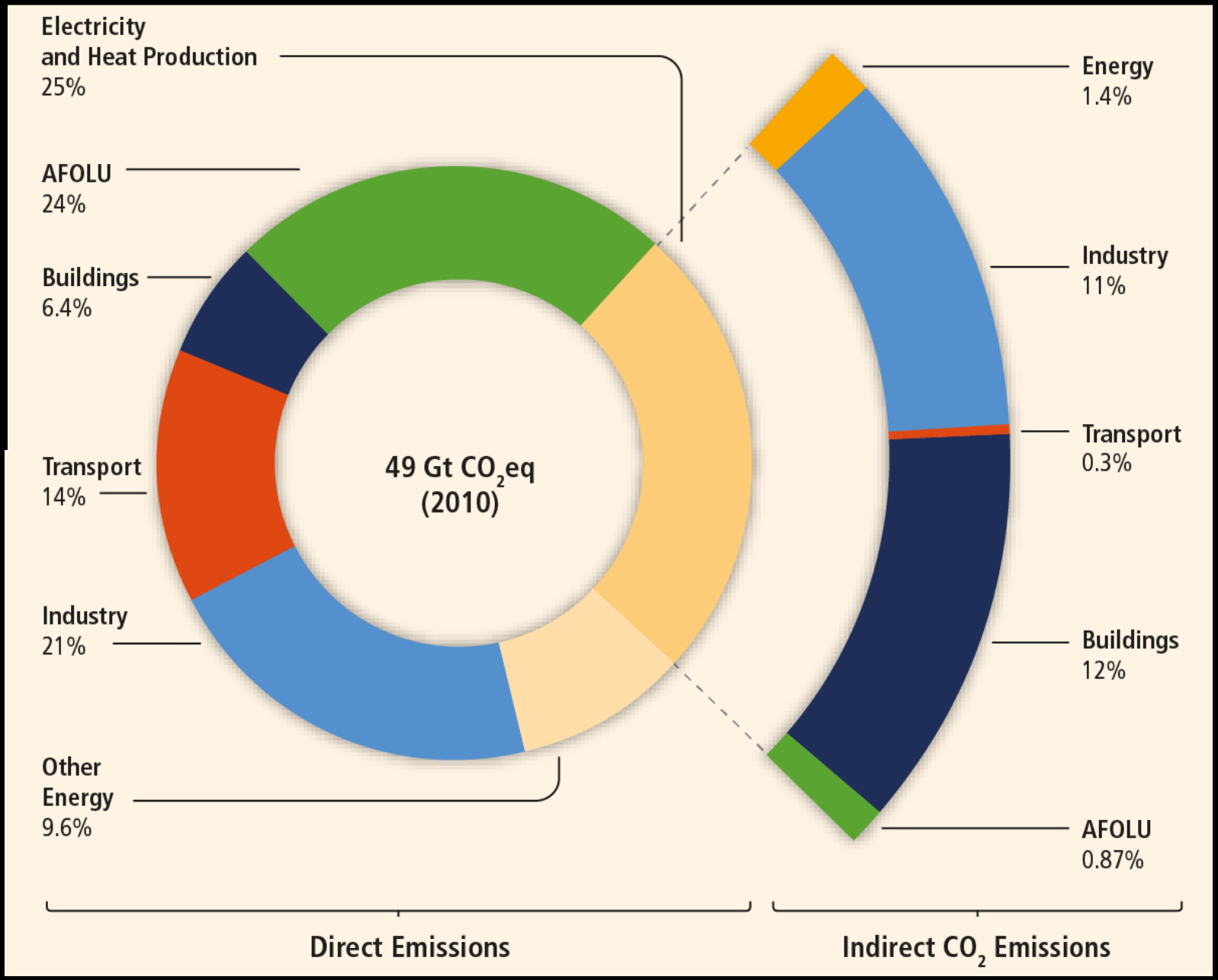
www.nature.com/news/mysterious-siberian-crater-attributed-to-methane-1.15649

dian Ag data Nati... Xfinity ECOBUDDHISM :: A... providers/erbenl.php Land Area of the Wo... UCB Libraries | Gov

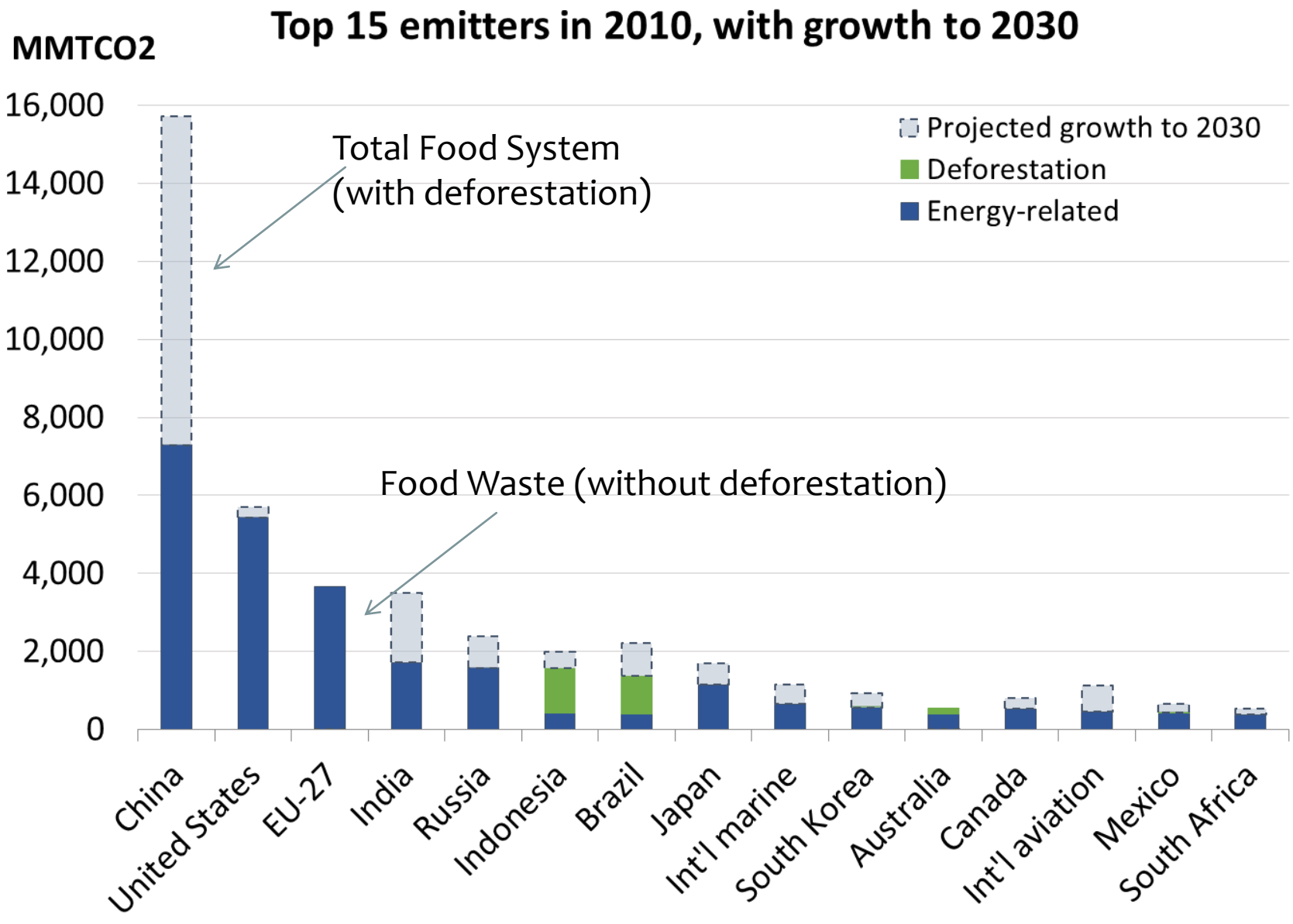
Mysterious Siberian crater attributed to methane

Build-up and release of gas from thawing permafrost most probable explanation, says

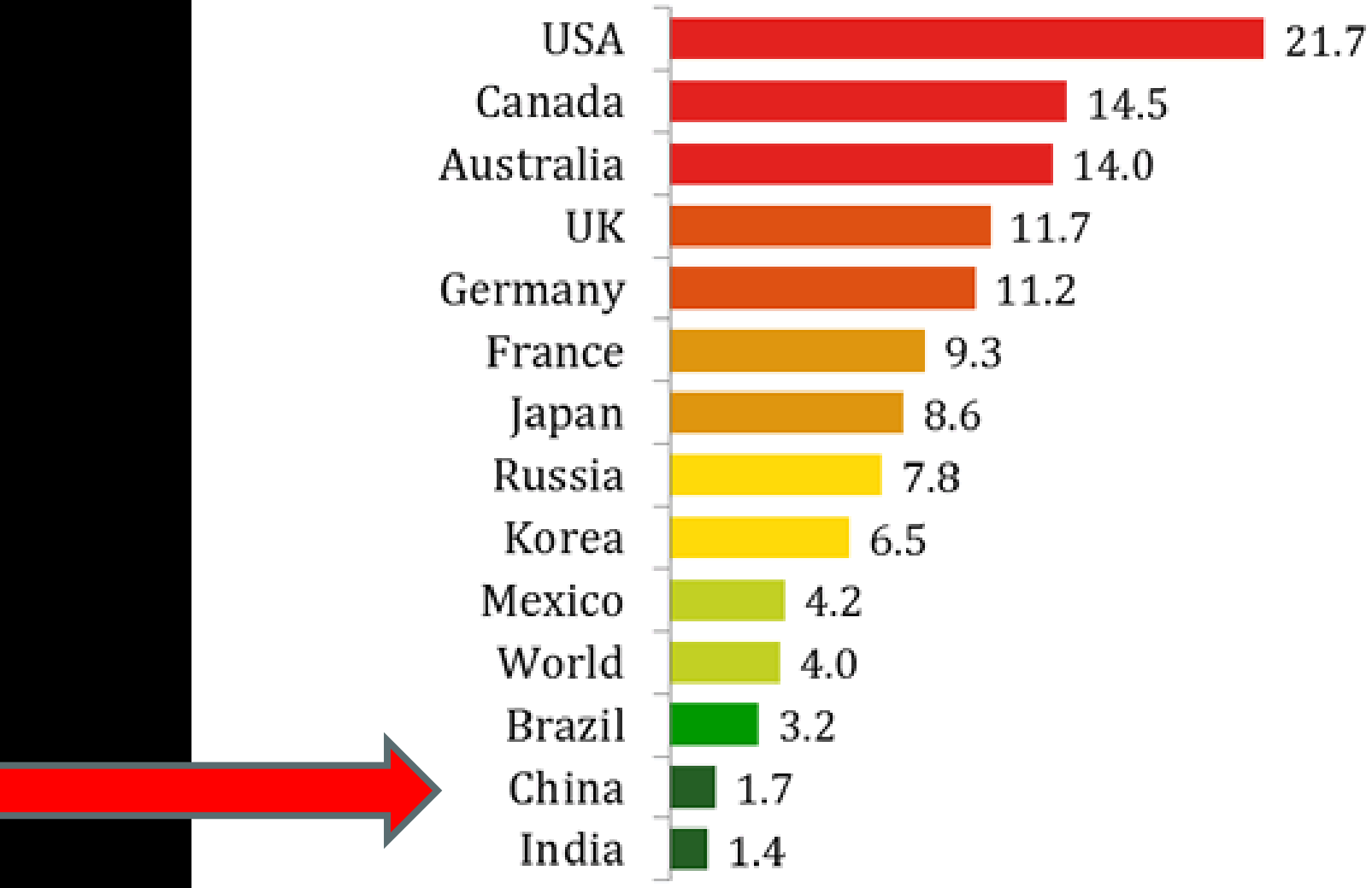
All sectors are producing GHGs



Contribution of different countries



Personal Carbon Footprints: t CO_2e (2001)



Note: The personal carbon footprint represents the combined emissions from personal consumption, inlcuding housing, travel, food, product and service emissions. It excludes capital, government and land use emissions.

Sources: Hertwich & Peters 2009

Shrink That Footprint

Trump's Executive Order: More Fossil Fuels, Regardless of Climate Change

Energy and Environment

One of the most troubling ideas about climate change just found new evidence in its favor

Scientists understood the climate 150 years ago better than the EPA head today

Trump has launched a blitzkrieg in the wars on science and Earth's climate

Trump's anti-science budget, anti-climate executive orders, and general disdain for scientific expertise come at a bad time

Executive order to effectively withdraw from Paris climate treaty

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March 22, 2017

Sea Ice Extent Sinks to Record Lows at Both Poles

Arctic sea ice appears to have reached on March 7 a record low wintertime maximum extent, according to scientists at NASA and the NASA-supported

Unequal impacts

~~2014~~

~~2015~~


YOUR
CHOICE
OUR
FUTURE


1.5°C
TO STAY
ALIVE
SACRED EARTH
SACRED TRUST

WOMEN WALK FOR HOURS TO REACH A WELL

Drought-hit sell blood to survive

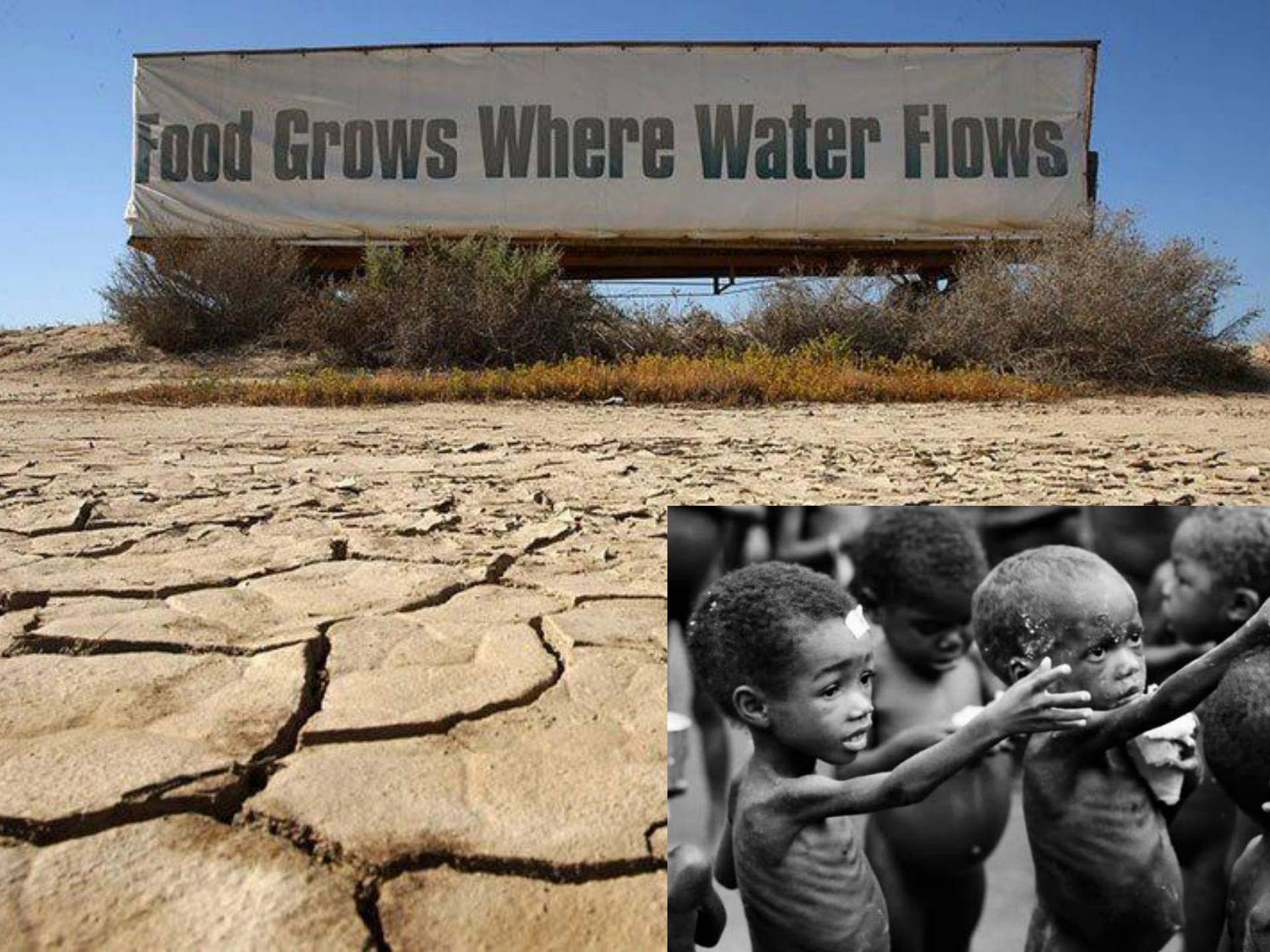
Related: WOR

World | Wed Feb 17, 2016 4:25am EST

Weather-weary Indian farmers resort to new cash crop - blood

Dalit Man Digs Well In 40 Days After His Wife Was Caste Shamed

And his well is "open to all"


Food Grows Where Water Flows

> Current Issue > vol. 112 no. 11 > Colin P. Kelley, 3241–3246, doi: 10.1073/pnas.1421533112

Check for updates

Climate change in the Fertile Crescent and implications of the recent Syrian drought

Colin P. Kelley[a,1], Shahrzad Mohtadi[b], Mark A. Cane[c], Richard Seager[c], and Yochanan Kushnir[c]

Author Affiliations

Edited by Brian John Hoskins, Impe
review November 16, 2014)

Abstract | Full Text | Authors

Significance

There is evidence that the
drought in the instrumental
families to urban centers. C
pressure, supported by clin
increased the probability of
a 3-year drought as severe
alone. We conclude that hu
conflict.

This Issue

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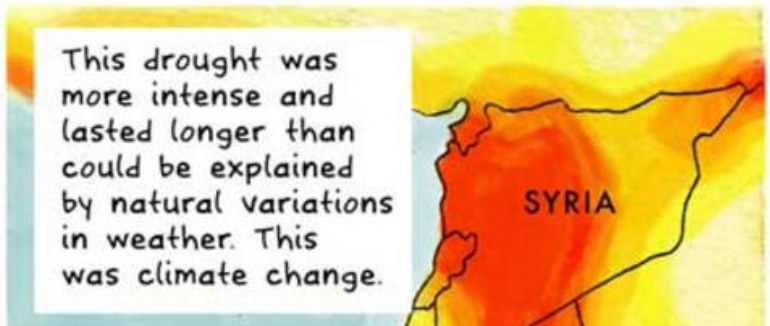
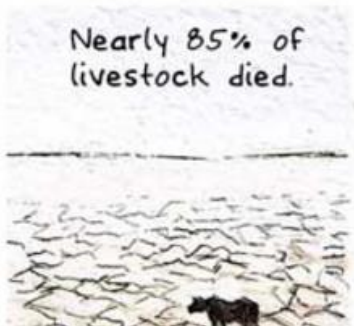
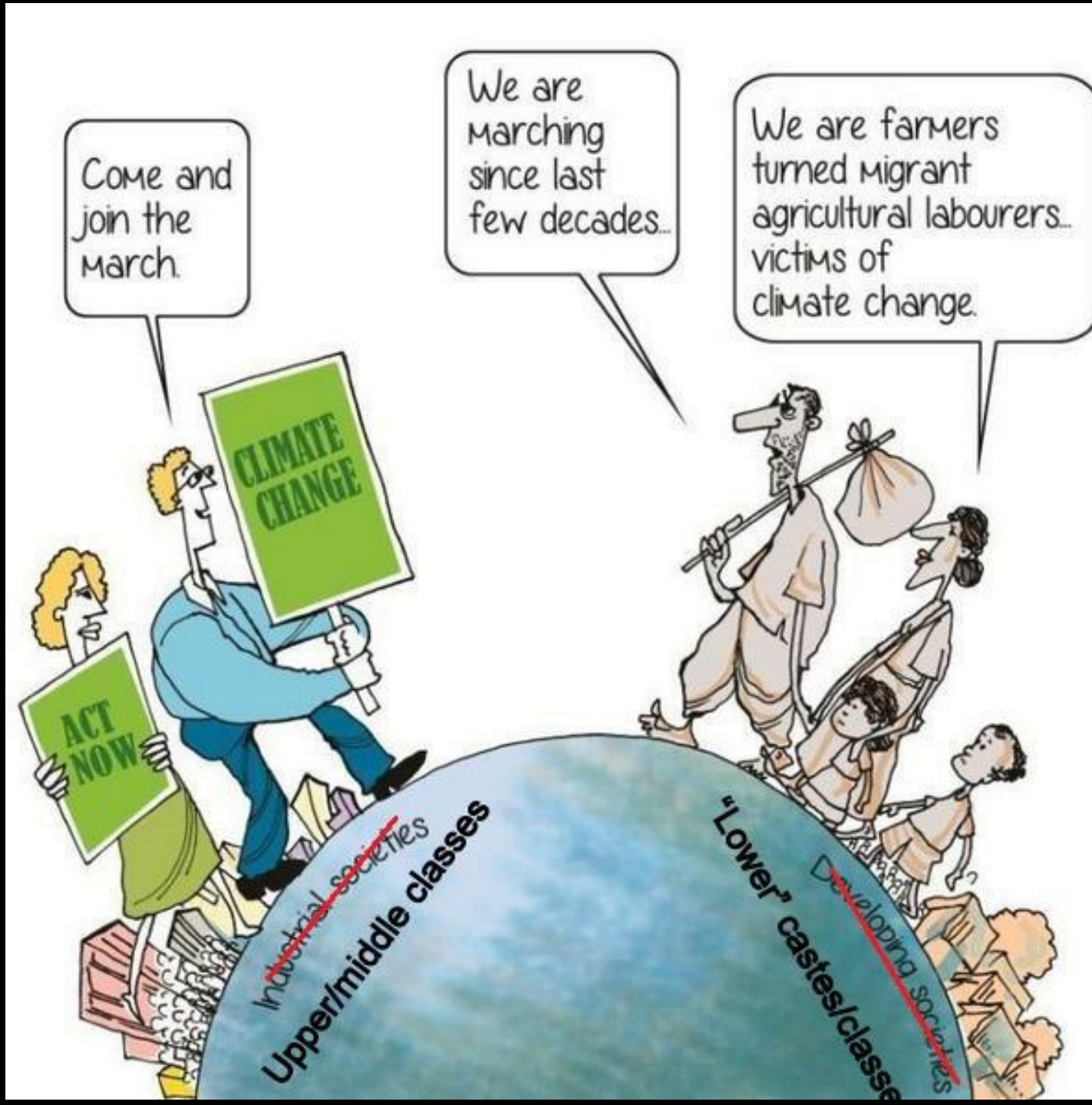
Syria's Climate-Fueled Conflict, In One Stunning Comic Strip





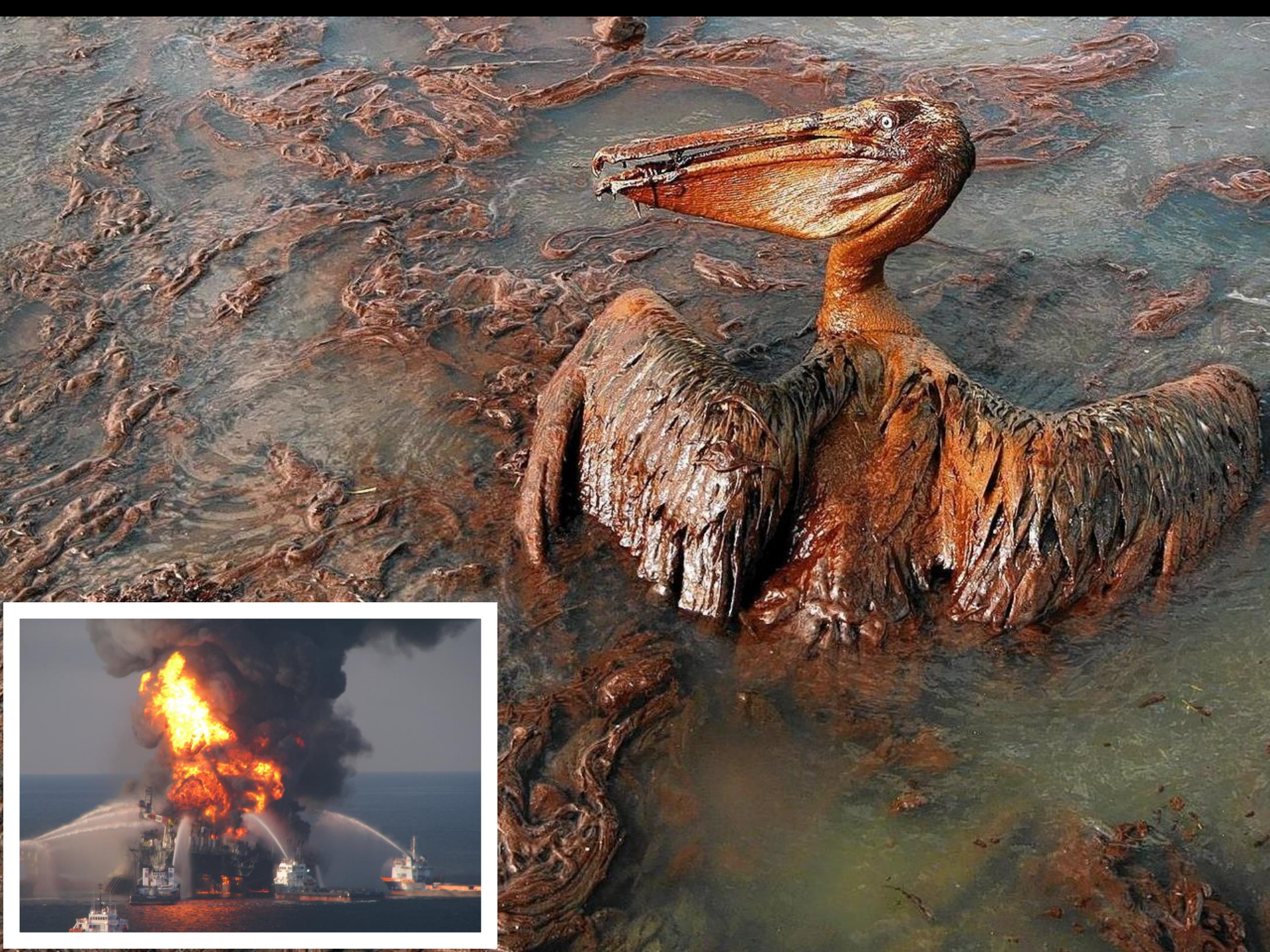
Justice


Come and join the March.
We are marching since last few decades...
We are farmers turned migrant agricultural labourers... victims of climate change.
CLIMATE CHANGE
ACT NOW
Industrial societies
Upper/middle classes
Developing societies
"Lower" castes/classes

Justice


© 2012 Smithsonian Kat Osborn


Come and join the march.
We are marching since last few decades
CLIMATE CHANGE
ACT NOW
Industrial societies
Upper/middle classes



Extinction risk from climate change

Meta-study pools what we know so far

Which groups are most at risk?

- Amphibians — 12.9%
- Reptiles — 9.0%
- Invertebrates — 8.8%
- Mammals — 8.6%
- Fish — 7.6%
- Plants — 7.3%
- Birds — 6.3%

predicted % of extinctions

Overall* 7.9%
131 studies

predicted % of extinctions

- North America — 5.1% — 32 studies
- Europe — 6.3% — 46 studies
- Asia — 9.2% — 4 studies
- Africa — 11.6% — 15 studies
- Oceans — 12.7% — 6 studies
- Australia-New Zealand — 13.9% — 16 studies
- South America — 23.0% — 7 studies

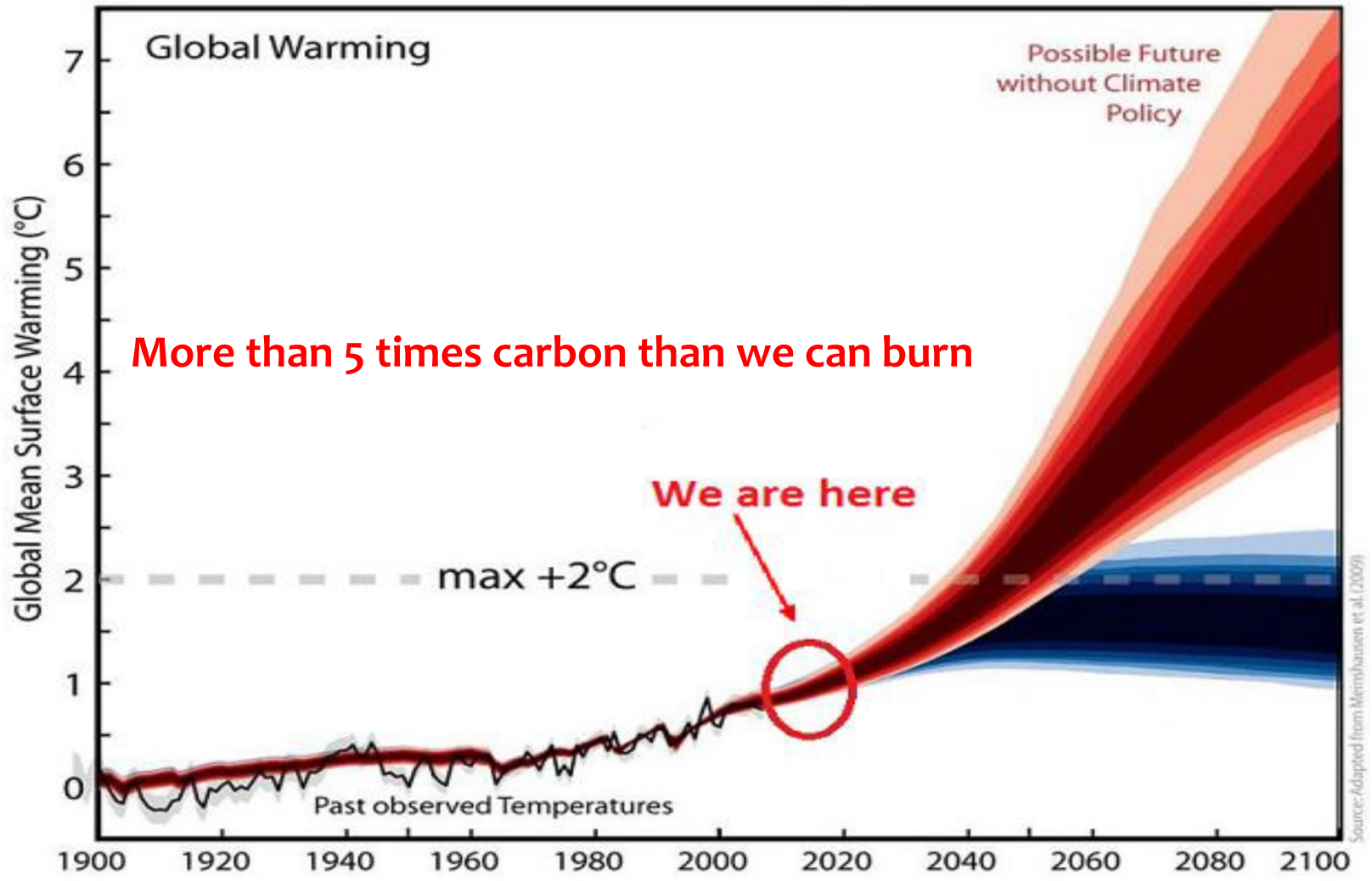
Which regions will be hit the hardest?

The Carbon Brief

silhouettes: Shutterstock carbonbrief.org

*average across all model assumptions of all studies

Hope and Challenge



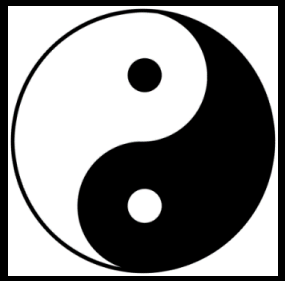
(Figure 3: Fork in our global road: How do we get ready to take the blue, safer path?)

How did we get here?

- **Values:** Lack of sense of oneness, connection & interdependence
- **Education:** We don't know what we are spewing into our bigger body. We know cellphone models not our soils.
- **Denial:** Too bad but science isn't clear or technology will fix it.
- **Guilt:** We know but we feel pressure to be loved and approved and continue with lifestyles that we think our society approves.
- **Blame without action:** Society approves advertised lifestyles that corporations promote for their profits. It is corporate greed.
- **Hunger for approval/love:** I'm not home. I'm not complete. I'm not lovable enough. Lack of genuine wise communities.

Ability to face and act in the midst of paradoxes

A psycho-spiritual necessity



Expressing grief-anger-confusion vs resilience & courage

Things getting better and better vs worse and worse

Living in joy/gratitude vs denial, distraction & complacency

Community's strength-wisdom vs dogma-conservatism

Urgency vs panic

Resignation vs patience

Expressing uniqueness vs being in community

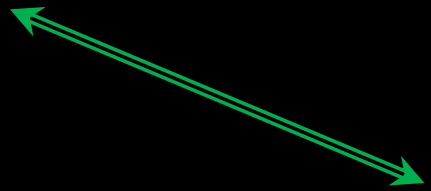
Education vs intellectualization

Psycho-spiritual basis for a path forward

(Neglecting any one of this tripod's legs is not wholesome…)

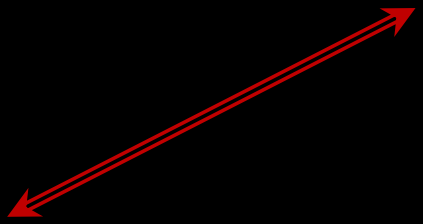
Personal empowerment

Physical, financial, emotional and spiritual health
Deep connection with the Unconscious/more-than-human world
Loosen grip of consumerism & speed: Conservation



Wise communities

Bearing witness: Grief, gratitude & joy: WTR
Questioning our values & spiritual institutions
Model for larger society wrt relationship to Earth



Skillful Action (Constructive & Obstructive)

Transforming economy, non-financial capitals
Ecological restoration, Buildings, Art, Governance, Demilitarization, Media
Carbon price: Economic lever; Keystone & Divestment, Political lever

Tlaloc

Indigenous god of groundwater, rain & agriculture

Quetzalcoatl

Feathered serpent God of wind

Resources

Email kritee@boundlessinmotion.org

Science

- Responses to skeptical questions: http://www.skepticalscience.com/
- United Nations - IPCC http://ipcc.ch/
- US National Climate Assessment: http://nca2014.globalchange.gov/

Buddhist response

- Ecobuddhism.org
- One Earth Sangha www.oneearthsangha.org/

(See background paper for many more resources)

Solutions/Tactics/Advocacy

http://shrinkthatfootprint.com/
http://edf.org
https://citizensclimatelobby.org/
http://wwf.panda.org/
http://www.nrel.gov/
http://www.renewables100.org/
http://350.org

EXTRA SLIDES

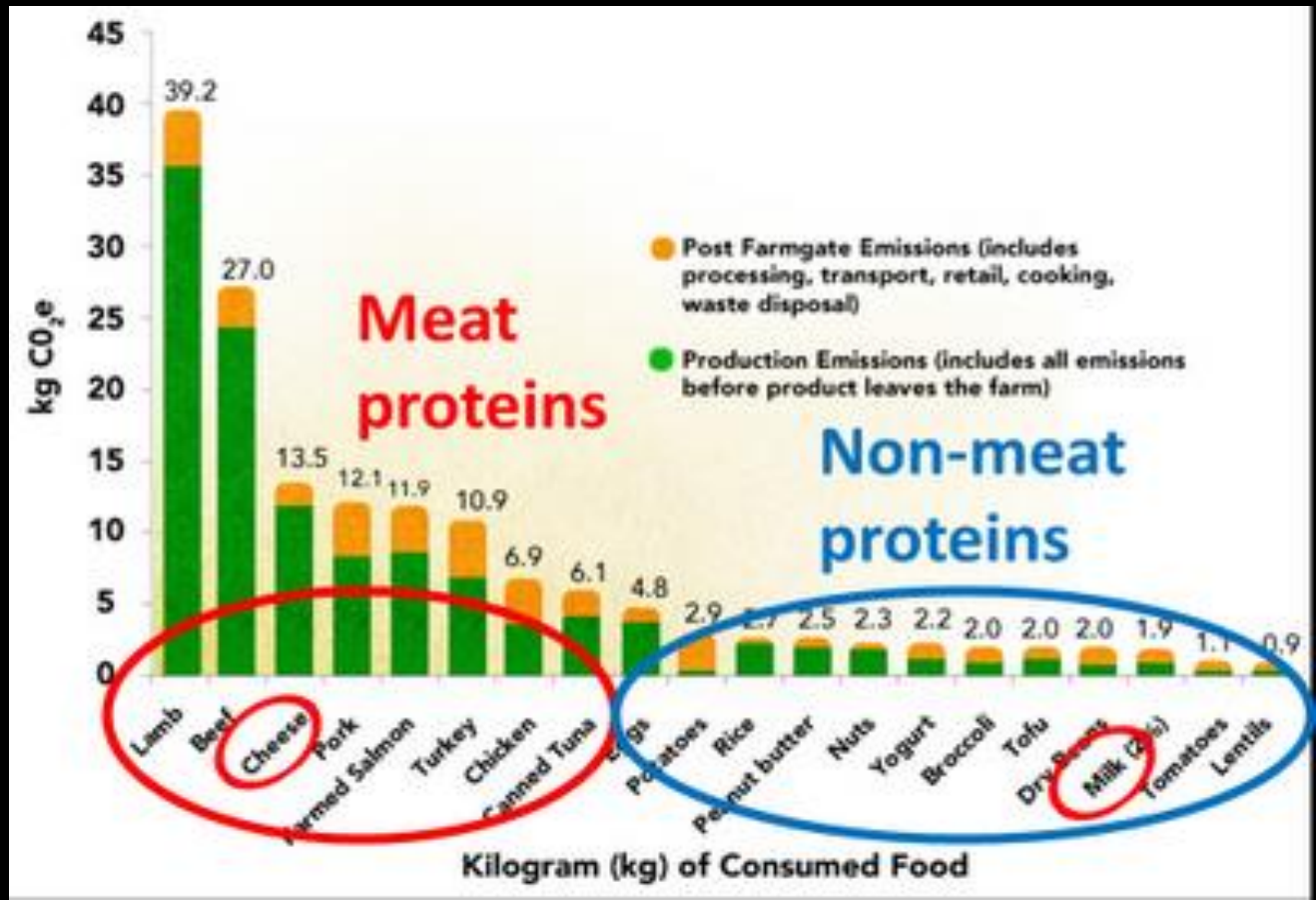
2016-2017 DROUGHT IN SOUTH INDIA

SHIFTING DIETS AND REDUCING WASTE

- **Food waste:** ~25 % of the world's food calories and 50 % of total food weight are lost or wasted before they can be consumed. (**Rich vs. poor).**

- Today ~55% of the world's crop calories feed people
  - 36% to livestock
  - 9% turned into biofuels and industrial products.

- For every 100 calories of grain we feed animals,
  - 40% as milk,
  - 22 % eggs,
  - 12 % chicken
  - 10%pork, or
  - 3% beef.



Methane & ongoing Extinction

Please see this video online
(not attached to powerpoint)

https://www.youtube.com/watch?v=sRGVTK-AAvw

Price of carbon: Importance

1. *Fossil Fuels are cheapest energy*
   - *Subsidized & externalize health/ environmental cost*
   - *Solution: Price on Carbon*

2. *Local/national regulations also required*
   - *Efficiency of Vehicles, Buildings*
   - *Solution: Enforcement/innovation*

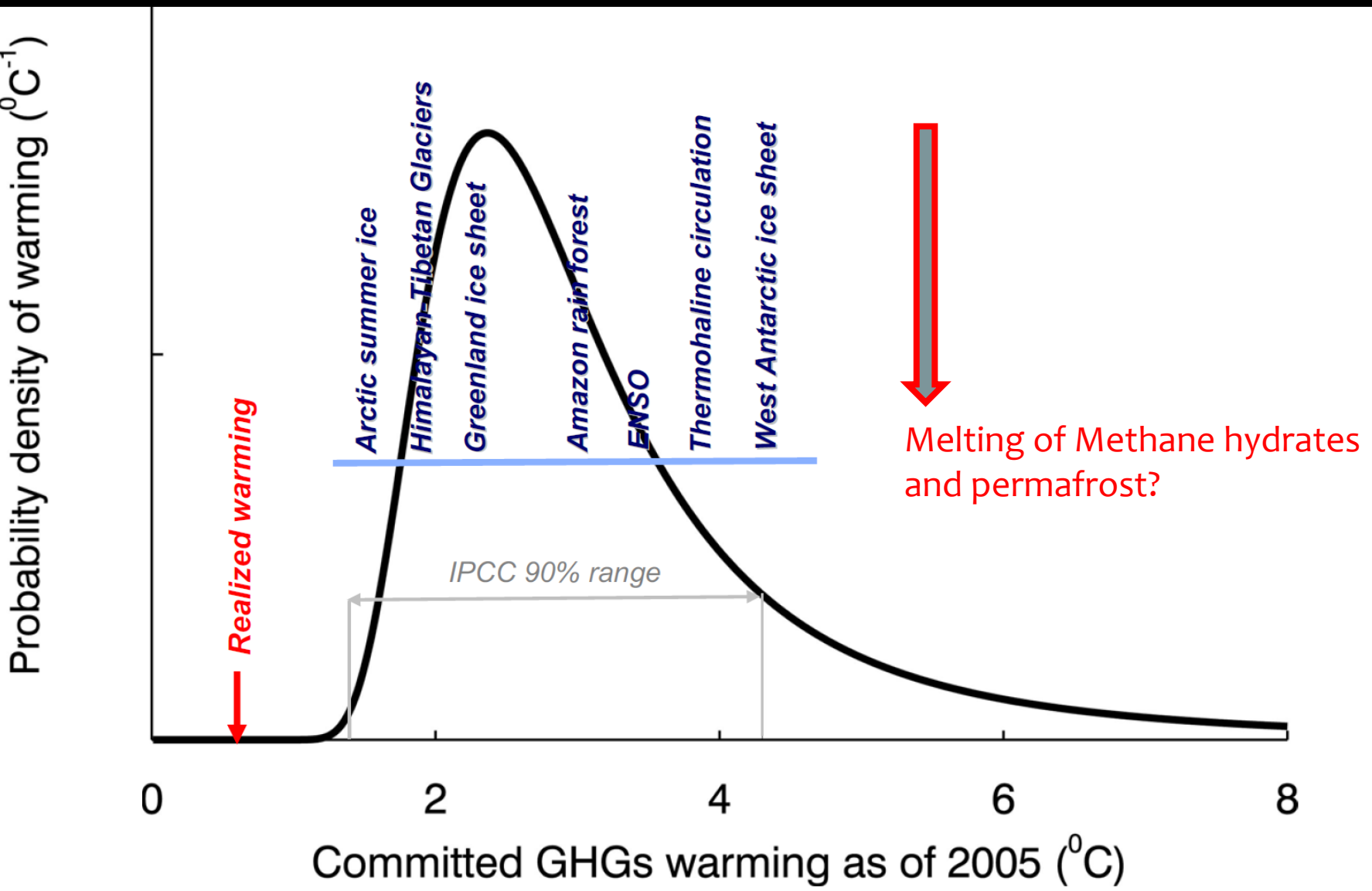
3. *Clean Technology research and development needed*
   - *Driven by certainty of carbon price*
   - *Government Role Limited*

Other technical fixes?

1. *Next Generations of Nuclear Power*
   - *Safe, burn waste, efficiency X 100 (??), centralized*
2. *Carbon Capture & Sequestration*
   - *Cost, Water, other problems remain, Use w Biofuels?*
3. *Geoengineering (Solar radiation management)*
   - *Cost, effect of water cycle/precipitation*
4. *Ocean fertilization with limiting nutrients*
   - *Long term effectiveness?*

Is it too late? Tipping points?

with zero future emissions



Conservative process

~195 countries approve summaries line by line

Uncertainty and its misuse

Certainty

- Climate has warmed rapidly in recent decades
- Primary cause: humans.
- Trust in climate models to predict long-term change at large scale

Uncertainty

- Effect of cloud cover, ice sheets, floating particles in air
- Weather vs climate
- Future scenarios/emissions: runaway climate change
- Difference in regions (Texas vs Maine) & downscaling
- Non–linearity of response to changing climate
- Socio-economic-political variables, other eco-crisis vs. long term climate change

….without ever denying the basic physics of global warming.

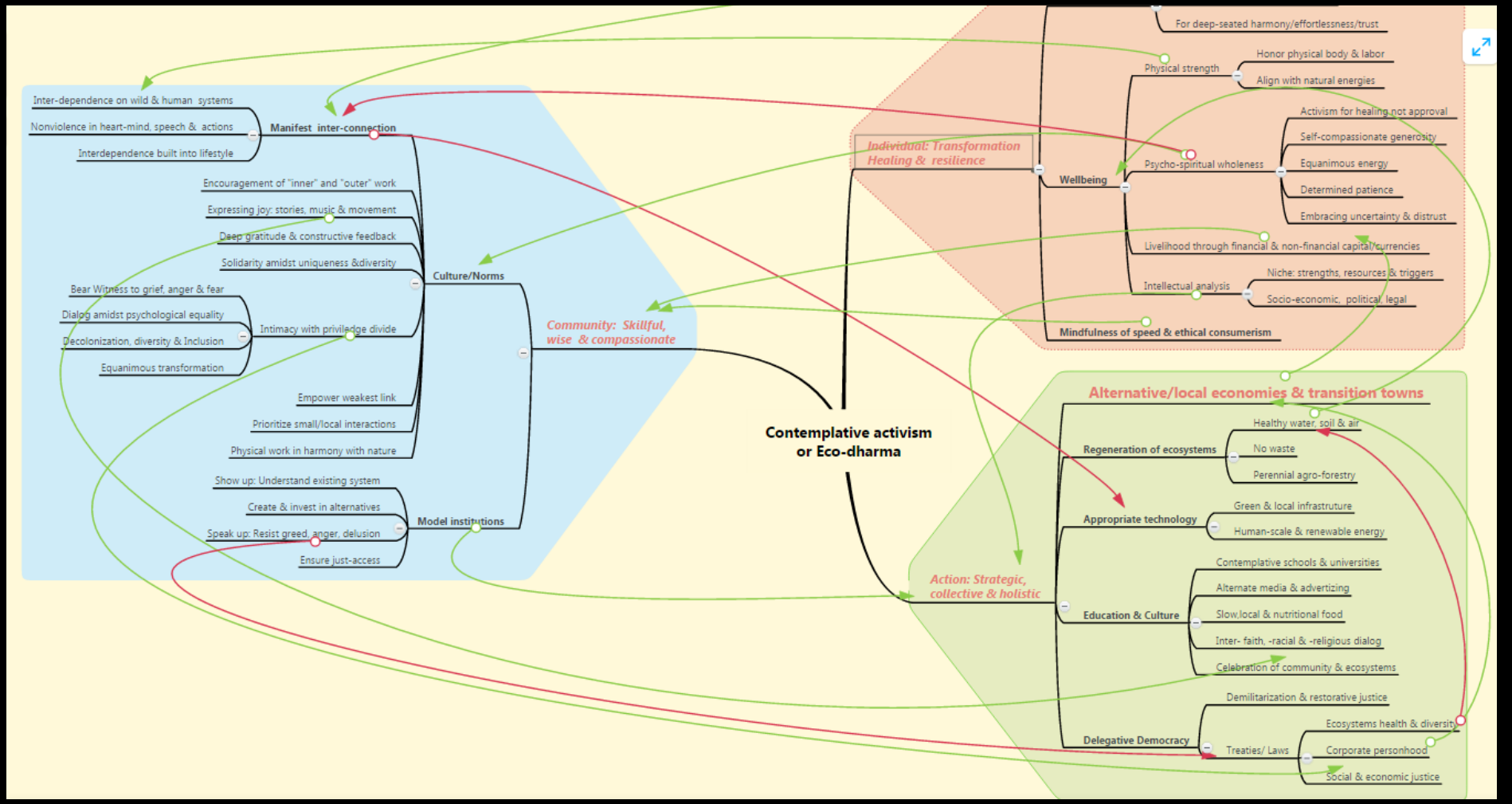


#ActiveHope trends

- Deforestation in Brazil down by 70-80% (2005-2008 vs. 2011-2014)
- Solar panels: a 60-75% drop in the price since 2008
- US added solar capacity in past 18 months > 30 years combined
- Wind more competitive than coal/gas in many parts of US
- US EPA: Clean power plan
- Technological leaps with flexible clean energy grids: Solar panels $3 bills.
- Divestment – fossil fuel burning - no profit if they are not allowed to burn it.
- European homes : 15% less energy use
- China has 7 pilot carbon pricing programs
- Indian farmers are learning to adapt to and mitigate methane/nitrous oxide emissions.

Become patient climate-active-hope whisperers…. And keep whispering

Three pillars of spiritual activism



Satyagraha = Fierce compassion

Bhoodan Movement

Vinoba Bhave, Gandhi's foremost satyagrahi with Mool Chand Jain (1915– 97)

What can I do?

- **Lack of education:** We don't know what we are spewing into our bigger body.
- **Denial:** We know something but we can't care. Science isn't clear or technology will fix it. We are good. Others are bad.
- **Guilt:** We feel pressure to be loved and approved and continue with lifestyles that we think our society approves.
- **Blame:** Society approves a lifestyle that is advertised as powerful. Corporations promote that lifestyle for their quarterly profits. It is fault of corporate greed.

- Desire for approval/love: I'm not home. I'm not complete. I'm not lovable enough.

- **Powerlessness:** Haven't connected with community and a higher self
- **Anger:**
- **Confusion:** I know we are harming our planet. But don't know how to change.
- **Fear**
- **Grief**